Design of Special-Purpose Automatic and Semiautomatic (Cont.)

Design of Special-Purpose Automatic and Semiautomatic (Cont.)

Card8/8

KUCHER, I.M., kandidat tekhnicheskikh nauk; KUCHER, A.M., kandidat tekhnicheskikh nauk; ANSEROV, M.A., kandidat tekhnicheskikh nauk, dotsent, redaktor.

[High-speed lathes] Tokarnye stanki dlia skorostnoi obrabotki. Moskva, Gos. nauchno-tekhnicheskoe izdatel'stvo mashinostroitel'noi i sudostroitel'noi lit-ry, 1953. 51 p. (Bibliotechka tokaria-novatora, no.3)
(MLRA 7:3)

(Lathes)

KUCHER, I.M., kandidat tekhnicheskikh nauk; KUCHER, A.M., kandidat tekhnicheskikh nauk; ANSEROV, M.A., kandidat tekhnicheskikh nauk, dotsent, redaktor.

[Modernization and automatization of lathes] Modernizatsiia i avtomatizatsiia tokarnykh stankov. Pod obshchei redaktsiei M.A.Anserova. Gos.nauchno-tekhnicheskoe izd-vo mashinostroitel'noi i sudostroitel'noi lit-ry, Moskva, 1953. 73 p. (Bibliotechka tokaria-novatora, no.4)
(MLRA 7:3)
(Lathes)

KUCHER, I.M., kandidat tekhnicheskikh nauk; KUCHER, A.M., kandidat tekhnicheskikh nauk.

[Machine-tool modernization and new Russian machine tools for high-speed metal cutting] Modernizatsiia stankov i novye otechestvennye stanki dlia skorostnogo rezaniia metallov. Leningrad, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry [Leningradskoe otd-nie] 1953. 301 p. (MLRA 6:12)
(Milling machines) (Metal cutting)

SOBOLEV, N.P., professor; SKRAGAN, V.A., kandidat tekhnicheskikh nauk, dotsent, retsenzent, KUCHER, I.M., kandidat tekhnicheskikh nauk, redaktor; NIKITIN, P.S., inzhener, redaktor; POL'SKAYA, R.G., tekhnicheskiy redaktor.

[Improving the kinematic precision of metal cutting machine tools.] Povyshenie kinematicheskoi tochnosti metallorezhushchikh stankov Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1955. 219 p. (Machine tools) (MLRA 8:10)

SHCHEGOLEV, A.V.; PARSHIKOV, V.I.; LUKASHEV, A.A.; ZAMURIY, A.D.; KUCHER, I.M., kandidat tekhnicheskikh nauk, dotsent, retsenzent; SHAVLYUGA, N.I., kandidat tekhnicheskikh nauk, dotsent, redaktor; LEYKINA, T.L., redaktor; POL'SKAYA, R.G., tekhnicheskiy redaktor.

[Machines for grinding spherical surfaces] Sferoshlifoval'nye stanki. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 114 p. (Grinding machines) (MLRA 9:5)

KUCHER, Iosif Mikhaylovich, kandidat tekhnicheskikh nauk, dotsent; SHAVLYUGA, Nikolay Ignat'yevich, kandidat tekhnicheskikh nauk, dotsent; BARSKIY, M.E., inzhener, redaktor; DRUZHINSKIY, I.A., kandidat tekhnicheskikh nauk, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; SOKOLOVA, L.V., tekhnicheskiy redaktor

[Automatization of machine tools; a survey of foreign technology] Avtomatizatsiia metallorezhushchikh stankov, obzor zarubezhnoi tekhniki. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 168 p. (MLRA 9:11)

(Automatic control) (Machine tools)

25(2,7);28(1) PHASE I BOOK EXPLOITATION SOV/3206

Kucher, Iosif Mikhaylovich, and Aleksandr Mikhaylovich Kucher

Tokarnyye stanki, ikh modernizatsiya i avtomatizatsiya (Lathes, Their Modernization and Automation) 2nd ed., rev. and enl. Moscow, Mashgiz, 1957. 138 p. (Series: Bibliotechka tokarya-novatora, vyp. 3) 25,000 copies printed.

General Ed.: M. A. Anserov, Candidate of Technical Sciences, Docent; Reviewer: N. I. Shavlyuga, Candidate of Technical Sciences, Docent; Ed.: I. G. Mansyrev, Engineer; Chief Ed. (Leningrad Division, Mashgiz): S. A. Bol'shakov, Engineer; Ed. of Publishing House: M. A. Chfas; Tech. Ed.: R. G. Pol'skaya.

PURPOSE: This book is intended for skilled machinists. It may also be useful to students in technical and trade schools.

COVERAGE: The book contains detailed descriptions of several Soviet lathe designs. Problems in modernization and automation are discussed,

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including methods of increasing the power and speed of lathes, means of reducing setup time, means of expanding the applicability of lathes, and the use of hydraulic control for copying-tool carriages. No personalities are mentioned.. There are 8 references: 7 Soviet, and 1 German.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TJ1218.B5)

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VK/mmh
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BLYUMBERG, V.A., kandidat tekhnicheskikh nauk; OGLOBLIN, A.N., dotsent, retsenzent; KUCHMA, L.M., kandidat tekhnicheskikh nauk, redaktor; SOKOLOVA, A.V., tekhnicheskiy redaktor

[Planing Work] Strogal'noe delo. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 234 p. (MIRA 10:11)
(Planing machines)

KUCHER, I.M., kandidat tekhnicheskikh nauk.

Basic trends in the modernization of machine tools. Mashinostroitel' no.1:13:22 Ja '57. (MLRA 10:4)
(Machine tools)

KUCHER, I. M., kandidat tekhnicheskikh nauk.

Principles of digital program control of machine tools. Mashinostroitel' no.7:1-10 Jl '57. (MLRA 10:8)
(Automatic control) (Machine tools)

25(5);25(7) PHASE I BOOK EXPLOITATION SOV/2287

Kucher, Iosif Mikhaylovich

Ekonomicheskaya effektivnost' modernizatsii stankov (Economic Effectiveness of Modernizing Machine Tools) Moscow, 1958. 17 p. (Series: Peredovoy opyt proizvodstva. Seriya "Ekonomika i organizatsiya proizvodstva," vyp. 2) 5,000 copies printed.

Sponsoring Agencies: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR, and Moskovskiy dom nauchno-tekhnicheskoy propagandy imeni F.E. Dzerzhinskogo.

Tech. Ed.: R.A. Sukhareva; Ed.: R.A. Noskin.

PURPOSE: This pamphlet is intended for industrial engineers.

COVERAGE: Industrial goals set forth by Soviet industry require significant improvement in machine-tool inventories. This improvement may be brought about in two ways, namely, by introducing modern machine tools in place of old, worn-out, and obsolete units

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Economic Effectiveness of Modernizing Machine (Cont.) SOV/2287

or by modernizing existing equipment. This booklet deals with the second alternative. Efforts of both ENIMS and the industry as a whole are concentrated on a modernization plan based on specific technological requirements of individual production sectors with emphasis on greater precision, expanded technological capability, and longer life of modernized machine tools. The reduction of machining time per unit of output may be attained, according to the author, by maximum utilization of cutting-tool capabilities, which in turn necessitates the increase in speeds, feeds, and rigidity of modernized machine tools. Studies show that in a number of instances a reduction of machining time per unit of output was achieved by concentrating operations through the use of special supports, multispindle heads, etc. Actual employment of modernized machine tools showed productive capacity gains of only 60 to 70 percent of computed gains. No personalities are mentioned. There are no references.

TABLE OF CONTENT: None given

AVAILABLE: Library of Congress

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SHAVLYUGA, Nikolay Ignat'yevich, dotsent, kand.tekhn.nauk; KOLCHIN, N.I., prof., doktor tekhn.nauk, red.; KUCHER, I.M., dotsent, kand. tekhn.nauk, red.; SIMONOVSKIY, N.Z., red.izd-va; POL'SKAYA, R.G., tekhn.red.

[Automatic control of gear-cutting machines] Avtomatizatsiia v zuboreznom dele. Pod obshchei red. N.I. Kolchina. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 101 p.(Biblio-techka zuboreza-novatora, no.10). (MIRA 12:1)
(Gear-cutting machines) (Automatic control)

KUCHER, I.I.

VYGODER, Mikhail Izrailevich; MITSENGENDLER, Mikhail Litmanovich; KOLCHIN, N.I., prof., doktor tekhn.nauk, red.; TURETSKIY, I.Yu., kand. tekhn.nauk, red.; SHAVLYUGA, N.I., dotsent, kand.tekhn.nauk, red.; KUCHER, I.I., kand.tekhn.nauk, retsenzent; VASIL'YEVA, V.P., red. izd-va; POL'SKAYA, R.G., tekhn.red.

[Calculations and examples of adjustments of gear planing and shaping machines] Raschet i primery naladok zubodolbezhnykh i zubostrogal'nykh stankov. Pod red. N.I. Kolchina. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 117 p. (Bibliotechka zuborezа-novatora, no.4) (MIRA 12:2)
(Gear-cutting machines)

SHAVLYUGA, Nikolay Igant'yevich, kand.tekhn.nauk dots.; VYGODER, Mikhail Izrailevich, inzh.; KOLCHIN, N.I., prof. doktor tekhn.nauk, red.; TURETSKIY, I.Yu., kand.tekhn.nauk, red.; KUCHER, I.M., kand. tekhn.nauk, dots., red.; VASIL'YEVA, V.P., redaktor izd-va; POL'SKAYA, R.G., tekhn.red.

[Design and examples of repairing gear-cutting and slot cutting machines] Raschet i primery naladok zubofreznykh i shlitsefreznykh stankov. Pod obshchei red. N.I.Kolchina. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 169 p. (Bibliotechka suboreza-novatora, no.3) (MIRA 11:5)
(Gear-cutting machines)

KUCHER, I.M.

TSYPKIN, M.Ye., inzh.; KRAFNOV, L.B., inzh.; GOL'TSIKER, D.G., inzh.; ASMUS, I.V., inzh.; VERIN, I.I., inzh.; KUCHER, I.M., kand.tekhn. nauk, retsenzent; OGLOBLIN, A.N., dots., red.; LEYKINA, T.L., red.izd-va; SOKOLOVA, L.V., tekhn.red.

[Milling machine parts by boring machines] Obrabotka detalei mashin na rastochnykh stankakh. Pod obshchei red. A.N.Oglobina. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 339 p. (Drilling and boring) (MIRA 11:4)

25(5,7) PHASE I BOOK EXPLOITATION SOV/1336

Kucher, Iosif Mikhaylovich, and Aleksandr Mikhaylovich Kucher, Candidates of Technical Sciences

Modernizatsiya i avtomatizatsiya stankov (Modernization and Automation of Machine Tools) Moscow, Mashgiz, 1958. 372 p. 12,000 copies printed.

Reviewer: Barskiy, M.E., Engineer; Ed.: Blyumberg, V.A., Candidate of Technical Sciences; Ed. of Publishing House: Leykina, T.L.; Technical Ed.: Pol'skaya, R.G.; Managing Ed. for Literature on Machine Building Technology (Leningrad Division, Mashgiz): Naumov, Ye.P., Engineer.

PURPOSE: This book is intended for design and mechanical engineers. It may also be useful to students attending tekhnikums and institutions of higher learning.

COVERAGE: This book reviews basic trends in the modernization and automatization of machine tools. It describes the following: methods of increasing power, speed, and precision; reduction of support time; automatization; changing technological capabilities of machine tools, etc. The monograph presents the basic calculations necessary to accomplish modernization and automatization

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programs and includes design drawings illustrating actual cases. Emphasis is placed on the problem of automatizing the available stock of machine tools, i.e., the automatization of machine tools under conditions of large-lot and mass production and automatization of hydraulic copying attachments. Problems of program control of machine tools are also discussed. Chapters II, III, V, and VIII, and the subchapter titled "Determining the optimum limits for increasing speed and power on the basis of gear operating conditions" (Ch. I), were written by I.M. Kucher; the remaining chapters were written jointly by I.M. Kucher and A.M. Kucher. There are 99 references, all Soviet.

TABLE OF CONTENTS:

BARSUKOV, A.A., inzh., laureat Leninskoy premii; BORISOV, Yu.S., inzh.; VAKS, D.I., inzh.; VLADZIYEVSKIY, A.P., doktor tekhn. nauk; prof., laureat Stalinskoy premii; GINZBURG, Z.M., inzh.; GLEYZER, Y.Ye., inzh.; ZOBIN, V.S., inzh.; KAZAK, M.I., dots.; KAMINSKAYA, V.V., kand. tekhn. nauk; KEDRINSKIY, V.N., inzh., laureat Leninskoy premii; KUCHER, A.M., kand. tekhn. nauk; KUCHER, I.M., kand. tekhn. nauk; LEVINA, Z.M., inzh.; LUK'YANOV, T.P., inzh.; MOROZOVA, Ye.M., inzh.; NOSKIN, P.A., kand. tekhn. nauk, dots.; NIBERG, N.Ya., kand. tekhn. nauk; OSTROUMOV, G.A., inzh.; PLOTKIN, I.B., inzh.; SPIVAK, M.D., kand. tekhn. nauk; SUM-SHIK, M.R., inzh.; SHASHKIN, P.I., inzh.; SHIFRIN, S.M., inzh.; YAKOBSON, M.O., doktor tekhn. nauk, prof.; GLINER, B.M., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Handbook for mechanics of machinery plants in tow volumes] Spravochnik mekhanika mashinostroitel'nogo zavoda v dvukh tomakh. Vol.1. [Organization and design preparation for repair work] Organizatsiia i konstruktorskaia podgotovka remontnykh rabot. Otv. red. toma R.A. Noskin. 1958. 767 p. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. (MIRA 11:8)

(Machinery—Maintenance and repair)

AUTHOR: Kucher, I.M., Candidate of Technical Sciences SOV-117-58-4-1/21

TITLE: The Automation of Existing Machine Tools (Avtomatizatsiya stankov nalichnogo parka oborudovaniya)

PERIODICAL: Mashinostroitel', 1958, Nr 4, pp 1-6 (USSR)

ABSTRACT: The article presents general information on design principles of auto-mechanic, electro-mechanic, pneumatic, pneumo-hydraulic and cam drives for machine tools, which can be used for existing non-automatic machine tools, i.e. for the conversion of the old machine tools. Ten different drive designs are described and illustrated. The following examples of completed automation are described: milling machines at Izhevskiy mashinostroitel'nyy zavod (Izhevsk Machine-building Plant), automated by the use of pneumo-hydraulic drive (Figure 8); another milling machine (Figure 9); simple lathes for machining rings at the Penzenskiy zavod tekstil'nogo mashinostroyeniya (Penza Textile Machine Plant) automated by cam drive (Figure 13). Automation of small drilling machines at the Kalininskiy vagonostroitel'nyy zavod (Kalinin RR-Car Plant) is mentioned. There are 10 diagrams, 3 photographs, and 2 Soviet references. 1. Machine tools--USSR 2. Machine tools --Control systems

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PHASE I BOOK EXPLOITATION SOV/4143

Avtomatizatsiya mekhanicheskoy obrabotki v Leningradskoy promyshlennosti (Automation of Mechanical Machining Processes in Leningrad Industry) Moscow, Mashgiz, 1959. 358 p. Errata slip inserted. 4,000 copies printed.

General Ed.: I.M. Kucher; Reviewers: N.V. Reshetikhin, Candidate of Technical Sciences, Docent, and Ye. V. Miller, Candidate of Technical Sciences, Docent; Eds. of Publishing House: T.L. Leykina and M.A. Chfas; Tech. Ed.: O.V. Speranskaya; Managing Ed. for Literature on Machine-Building Technology (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for technical personnel.

COVERAGE: The book deals with the automation of mechanical machining processes in small-lot production in Leningrad industry. The use of hydraulic copying slide rests is explained, and practical experience in the introduction of copying slide rests into leading Soviet plants is described. The improvement of such slide rests, the technical and economic effects resulting from their usage, and methods of designing master forms are discussed. New designs of hydraulic slide rests are described. Emphasis is laid upon problems of program control, especially

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for the simplest control systems, and a number of the original systems are described. Automation problems involved in the group machining method are investigated. No personalities are mentioned. There are 57 references: 46 Soviet and 11 English.

TABLE OF CONTENTS:

SECTION II.

NUMERICAL PROGRAM CONTROL

SECTION III.

AUTOMATION IN LOT PRODUCTION BASED ON THE GROUP MACHINING METHOD

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25(5,6) SOV/117-59-2-7/27

AUTHOR: Kucher, I.M., Candidate of Technical Sciences

TITLE: The Modernization and Automation of Machine Tools in the Group Method of Machining (Modernizatsiya i avtomatizatsiya stankov pri gruppovom metode obrabotki)

PERIODICAL: Mashinostroitel', 1959, Nr 2, pp 13-15 (USSR)

ABSTRACT: The author mentions some examples of modernization of equipment in such plants as the Plant imeni Karl Marx, "Znamya Truda", various instrument construction plants in Leningrad, and the Plant imeni Ya. M. Sverdlov. He briefly describes a new multi-stage mechanical stopper (Figure 1) for lathes of 1A62, 1D62, DIP-200 and other types, constructed by the Kafedra metallorezhushchikh stankov SZPI (Chair of Metal-Cutting Lathes of SZPI), mentions a new relay system of numerical program control on lathes, worked out by Engineer P.F. Shafranskiy, which permits machining to a precision of 0.04 mm. There are 4 diagrams.

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25(5) SOV/117-59-4-2/36

AUTHORS: Barskiy, M.E., Blyumberg, V.A., Gushchin, V.F., and Kucher, I.M., Engineers.

TITLE: The Automation of Machining in Small-Lot Production by the Use of Hydro-Tool Rests.

PERIODICAL: Mashinostroitel', 1959, Nr 4, pp 3-8 (USSR)

ABSTRACT: The authors treat the problems discussed at a special conference on the matter of application of hydraulic tracer tool rests ("GS-1" and KST-1") for machine tools employed in the small-lot machining of complex staged or otherwise shaped machine parts. The conference convened from 23 to 27 March and was organized by the Leningrad NTO MAShPROM board. Automation with the subject tool rests would greatly raise the rate of machining (25-50% and in some cases much more), and they are very well applicable for lathes, but cannot be used without some additional equipment

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The Automation of Machining in Small-Lot Production by the Use of Hydro-Tool Rests.

(Like driver centers, floating centers, pneumatic cylinders, special mandrels, etc.). Some conventional machine part designs would have to be slightly changed, and the application is not clearly commercial in all possible cases, for the time gain can be obtained on the account of auxiliary machine tool work, while the cutting process itself is not speeded up but becomes somewhat slower. The article describes a driver center (Figure 2) used at the Leningradskiy stanko-stroitel'nyy zavod im. Sverdlova (Leningrad Machine Tool Plant imeni Sverdlov); the tracers in use (Figure 4); the conclusions of the Leningradskiy inzhenerno-ekonomicheskiy institut, "LIEI", (Leningrad Engineering-Economic Institute) made after a study of the commerciability of the tool rests, and recommendations

The Automation of Machining in Small-Lot Production by the Use of Hydro-Tool Rests.

concerning details of the machining process with the use of the hydro-tool rests. Design changes needed for the application of the hydro-tool rests will be described in the next issue of this periodical. There are 5 diagrams, 2 graphs, 1 table and 1 Soviet reference.

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SOV/117-59-5-4/30

AUTHORS: Barskiy, M.E., Blyumberg, V.A., Gushchin, V.F., and Kucher, I. M. M., Engineers

TITLE: The Automation of Machining in Small-Scale Production by Using Hydraulic Slide-Rests

PERIODICAL: Mashinostroitel', 1959, Nr 5, pp 7-12 (USSR)

ABSTRACT: This is the second part of an article (see the beginning in "Mashinostroitel'", 1959, Nr 4). This chapter lists improvements of hydraulic slide-rests, introduced at the Leningradskiy zavod "Bol'shevik" (Leningrad "Bol'shevik" Plant), the Leningradskiy zavod imeni Kirova (Leningrad Plant imeni Kirov) and others. The following are listed: an attachment for multi-pass operations with the "GS-1" slide-rest (Figure 1); a similar attachment for the "KST-1" slide-rest (Figure 2); stops, limiting the slide-rest travel from left to right, and on the copying motion guides toward the centers axis (Figures 3, 4). These stops eliminate time waste and prevent the breakage of cutting tools. It is mentioned that the "GS-1" gives only a

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The Automation of Machining in Small-Scale Production by Using Hydraulic Slide-Rests

low-diameter accuracy of work (frequently even below the 5th "OST" accuracy class), the reason being the changing temperature of the hydraulic oil during the first 2-3 hours of operation or after stoppages. But the "KST-1" and "UP-240" achieve an accuracy of "3 a" class in a stable work process. The linear dimensions are not affected by oil temperature changes. The Leningradskiy inzhenerno-ekonomicheskiy institut (Leningrad Institute of Economic Engineering) stated that a static error in the follow-up system causes a systematical error of 0.03 to 0.1 mm in the linear dimensions of all hydraulic slide-rests. The causes of the low rigidity of the "GS-1" were investigated with the use of indicators placed as shown in Figure 6. The results are specified. Detailed information is given on a new hydraulic slide-rest type "GIZ-1", designed by V.F. Gushchin and built at the Izhorskiy mashinostroitel'nyy zavod (Izhorskiy Machine Building Plant), for use on the "1K62" lathe (Figure 7). The outstanding features of the "GIZ-1" are given. 1) It is attached directly to the cross-slide, on

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the rear; it is small and its center of gravity is so placed that the slide cannot shift. 2) It may be used with a circular as well as with a flat tracer and the work edge of the feeler is approximately at the center of the possible swing of the slide, so that no shifts of the follow-up displacements are possible if the slide shifts. 3) The hydraulic slide is a massive round bar and the cutting tool is attached to its body. The bar is at the same time a hydraulic cylinder, which displaces in relation to a fixed piston. It is provided with a separate aperture for attaching boring bars. 4) The hydraulic system is exactly the same as in the "KST-1" and "GS-1" hydraulic slide-rests. At the Leningrad "Bol'shevik" Plant, the lathe operator V.N. Trutnev developed a hydraulic slide-rest for the "1A62" lathe. The particular feature of this slide-rest is the absence of a separate motor for the drive of the hydraulic pump. It is being used for machining external complex surfaces, as well as internal complex surfaces (stepped or otherwise shaped) (Figures 8,9).

The Automation of Machining in Small-Scale Production by Using Hydraulic Slide-Rests.

Recommendations are included for designing hydraulic slide-rests. There are 10 sets of diagrams, 1 table, and 1 Soviet reference.

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MITROFANOV, Sergey Petrovich; KUCHER, I.M., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn. red.

[Mechanization and automation under multiple machining conditions] Voprosy mekhanizatsii i avtomatizatsii v usloviiakh gruppovogo proizvodstva; tekst doklada na Vserossiiskom soveshchanii po gruppovoi obrabotke. Leningrad, Leningr. Dom nauchno-tekhn. propagandy, 1961. 75 p. (MIRA 14:7)

(Automation) (Industrial management)

BARSKIY, Maksim Emil'yevich; KUCHER, I.M., kand. tekhn. nauk, red.; FREGER, D.P., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Developing technological processes and preparing programs for lathes with digital programmed control] Razrabotka tekhnologicheskikh protsessov i podgotovka programm dlia tokarnykh stankov s tsifrovym programmnym upravleniem. Pod red. I.M.Kuchera. Leningrad, 1961. 92 p. (MIRA 15:5)
(Lathes—Numerical control) (Automatic control)

KUCHER, Iosif Mikhaylovich; YEMEL'YANOVA, Ye.V., red.; ONOSHKO, N.G., tekhn. red.

[Numerically controlled machine tools] Stanki s tsifrovym programmnym upravleniem. Leningrad, Lenizdat, 1961. 159 p. (MIRA 15:1)

(Machine tools—Numerical control)

KUCHER, Iosif Mikhaylovich, kand. tekhn. nauk, red.; BARSKIY, M.E., inzh., red.; LEYKINA, T.L., red. izd-va; KUREPINA, G.N., red. izd-va; PETERSON, M.M., tekhn. red.

[Automation of machine tools] Avtomatizatsiia metallorezhushchikh stankov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 201 p. (MIRA 14:9)
(Machine tools—Numerical control)

KUCHER, I.M.

Numerically controlled lathes. Mashinostroitel' no.7:13-15 '61. (MIRA 14:7)

(Lathes—Numerical control)

SHAVLYUGA, Nikolay Ignat'yevich; KOLCHIN, N.I., zasl. deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk, prof., red.; KUCHER, I.M., kand. tekhn. nauk, red.; SIMONOVSKIY, N.Z., red. izd-va; BARDINA, A.A., tekhn. red.

[Mechanization and automation of gear-cutting operations]Mekhanizatsiia i avtomatizatsiia v zuboreznom dele. Pod obshchei red. N.I.Kolchina. Izd.2. Moskva, Mashgiz, 1962. 91 p. (Bibliotechka zuboreza, no.8) (MIRA 15:9)
(Gear cutting--Technological innovations)
(Automation)

PAKIDOV, P.A.; KUCHER, I.M., kand. tekhn.nauk, retsenzent; BLYUMBERG, V.A., kand. tekhn.nauk, red.; VARKOVETSKAYA, A.I., red. izd-va; PETERSON, M.M., tekhn. red.

[Program control of lathes and turret machines]Programmnoe upravlenie tokarnymi i revol'vernymi stankami. Moskva, Mashgiz, 1962. 191 p. (MIRA 15:10)
(Machine tools--Numerical control)

MITROFANOV, Sergey Petrovich; GUTNER, Naum Grigor'yevich; KUCHER, I.M., kand. tekhn. nauk, retsenzent; ANSEROV, M.A., kand. tekhn. nauk, red.; CHFAS, M.A., red. izd-va; KUREPINA, G.N., red. izd-va; SHCHETININA, L.V., tekhn. red.

[Turret lathes and their efficient use]Revol'vernye stanki i ikh ratsional'noe ispol'zovanie. Moskva, Mashgiz, 1962. 349 p. (MIRA 16:3)

(Lathes) (Turning)

KUCHER, I.M.; GOL'TSIKER, D.G., inzh., retsenzent

[Machine tools; fundamentals of their design] Metallorezhushchie stanki; osnovy konstruirovaniia i rascheta. Moskva, Izd-vo "Mashinostroenie," 1964. 670 p. (MIRA 17:8)

ACC NR: AP7004062 SOURCE CODE: UR/0436/66/000/004/0019/0020

AUTHOR: Kornev, K. A.; Luzan, V. I.; Kucher, I. Ye.

ORG: none

TITLE: Water-repellent impregnation of Kapron [polycaprolactam]

SOURCE: Khimicheskaya promyshlennost' Ukrainy, no. 4, 1966, 19-20

TOPIC TAGS: Kapron, stearic acid, amide, polycaprolactam

ABSTRACT: In addition to new derivatives of stearic acid, the authors studied the hydrophobic properties of derivatives of C_{16}-C_{20} fatty acids, i. e., diamides of o- and m-phenylenediamine and certain diesters of stearic acid (p-stearylaminophenylethylene glycol, p- and m-nitrophenylethylene glycol). The Kapron fabric samples were immersed in a 1% solution of these substances, wrung out, dried at room temperature, and tested for water repellency. The contact angle of wetting was measured with a penetrometer. Almost all of the tested preparations showed water-repellent properties and surpassed preparation 101 (stearylamidomethylpyridinium chloride). The best properties were observed in the o- and p-isomers. In contrast to the toxic preparations 246 and 101 used in industry, the synthesized substances do not spoil the fabrics and do not decompose on heating. Orig. art. has: 1 table.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 004

Card 1/1 UDC: 677.494.6:677.862.513

DMITRIYEVA, I.T.; RUDENKO, N.B.; KUCHER, L.S.

Clinical significance of Kimbarovskii's color sedimentation reaction. Vrach. delo no.2:132-133 F '61. (MIRA 14:3)

1. Kafedra propedevtiki vnutrennikh bolezney (zav. -- prof. TS.A. Lepina) Odesskogo meditsinskogo instituta.
(URINE—ANALYSIS AND PATHOLOGY)

KUCHER, L.S.

Features of blood coagulation in healthy children. Vop. okh. mat. i det. 6 no.9:4-7 S '61. (MIRA 14:9)

1. Iz kafedry gospital'noy pediatrii (zav. - deystvitel'nyy chlen AMN SSSR prof. A.F.Tur) Leningradskogo pediatricheskogo meditsinskogo instituta (dir. - dotsent Ye.P.Semenova).
(BLOOD—COAGULATION)

ABEZGAUZ, A.M.; KUCHER, L.S.

Familial and congenital forms of hypoconvertinemia in childhood.
Vop.okh.mat.i det. 7 no.9:31-35 S '62. (MIRA 15:12)

1. Iz kafedry gospital'noy pediatrii (zav. - deystvitel'nyy chlen AMN SSSR prof. A.F.Tur) Leningradskogo pediatricheskogo meditsinskogo instituta (rektor - dotsent Ye.P.Semenova).
(CONVERTIN) (HEMOPHILIA)

KUCHER, M.; ABUSHEVA, K., starshiy nauchnyy sotrudnik

Potentials for the growth of labor productivity in construction of synthetic fiber plants. Prom.stroi. i inzh. soor. 4 no.4: 26-29 Jl-Ag '62. (MIRA 15:9)

1. Rukovoditel' laboratorii mekhanizatsii stroitel'no-montazhnykh rabot Nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii stroitel'nogo proizvodstva Akademii stroitel'stva i arkhitektury UkrSSR (for Kucher). 2. Nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii stroitel'nogo proizvodstva Akademii stroitel'stva i arkhitektury UkrSSR (for Abusheva).
(Building--Technological innovations)
(Factories--Design and construction)

REUT, B. K., KUCHER, M. G.

Plastering

Introduction of movable equipment for liquid plaster.
Biul. stroi. tekh., 9, no. 1, 1952
Inzh.; Giproorgipomzhilstroy Ministerstva Ugol'noy Promyshlennosti

Monthly List of Russian Accessions, Library of Congress, April, 1952. UNCLASSIFIED

KUCHER, M., kandidat tekhnicheskikh nauk; SOLOVENKO, V., inzhener,

Readily demountable couplings of shore ground pipes. Mor. i rech. flot 14 no.9:25 S '54. (MLRA 7:10)
(Pipelines)

KUCHER, M.O., kandidat tekhnicheskikh nauk.

Using wooden riveted pressure pipes for conveying sludge.
Sbor.trud.VNIIGS no.6:123-132 '55. (MLRA 9:7)
(Pipe, Wooden)

SOV/98-58-12-13/21

AUTHORS: Ivanov, N.A. and Kucher, M.G., Candidates of Technical Sciences

TITLE: Efficiency and Invention (Ratsionalizatsiya i izobretatel'stvo). A VNIIGS Suction Dredge Sludge Meter of the Type I-9 (Gruntomer VNIIGS tipa I-9).

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1958, Nr 12, pp 43 - 45 (USSR)

ABSTRACT: N.A. Ivanov, Candidate of Technical Sciences, has invented a sludge meter (registered under Nr 108,139) for the permanent and automatic registration of sludge consistency worked out by suction dredges. The VNIIGS integrator of the type I-9 is an instrument working by electrical impulses. The I-9 has been tested from 1955-1956 and has proved reliable, easy to handle and exact. Its use on suction dredges is recommended. There are 2 photos, and 1 circuit diagram.

Card: 1/1

KANYUKA, Nikolay Sergeyevich; KUCHER, Markus Grigor'yevich; NOVATSKIY, Aleksandr Aleksandrovich; KOMENDANT, K.P., red.; ZELENKOVA, Ye.Ye., tekhn. red.

[Selection and use of cranes for construction and assembly work] Vybor i primenenie stroitel'no-montazhnykh kranov. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 183 p. (MIRA 15:3)

(Cranes, derricks, etc.)

KANYUKA, N.S., kand. tekhn. nauk; KUCHER, M.G., inzh.; KRYUKOV, I.M.; ZEL'TSER, R.Ya.; RODICHKINA, M.P.; MIKHAYLOV, I.K.; GAYDAY, V.K., red.

[Overall mechanization of the assembly of industrial structures; methodological manual on the selection of efficient sets of assembling machinery] Kompleksnaia mekhanizatsiia montazha promyshlennykh sooruzhenii; metodicheskoe posobie po vyboru ratsional'nykh komplektov montazhnykh mashin. Kiev, Budivel'nyk, 1965. 192 p. (MIRA 19:1)

1. Nauchno-issledovatel'skiy institut stroitel'nogo proizvodstva.

BIBIKOV, I.; DEREVYANKO, K.; KAZACHKO, V.; KIRICHENKO, I.; KUCHER, N.; MACHUKHO, A.; NABATNIKOV, P.; SOKOLOV, D.; SIVOKON'Ye.; US, V.; SHCHIGALEV, V.; BURAVENKO, N.; KOVSHAROV, S.; SOKOLOV, S.; ZAGORUL'KO, S.; TSYBA, M.; FOMENKO, I.; LYAKHOVETSKIY, M.

Let us help farmers grow an abundant crop. Grazhd. av. no.3:3 Mr '61. (MIRA 14:3)

(Aeronautics in agriculture)

KUCHER, N.V.

Role of rural public health in the Ukraine. Sov.zdrav. 13 no.2: 26-32 Mr-Ap '54. (MLRA 7:4)

1. Nachal'nik otdela sel'skikh lechebno-profilakticheskikh uchrezhdeniy Ministerstva zdravookhraneniya USSR.
(Ukraine--Public health, Rural) (Public health, Rural--Ukraine)

KUCHER, Nina Vasil'yevna

[The work and the personnel of a village hospital; sketch of the work practices of the Kitkovetskiy District Hospital, Vinnitsa Province] Dila i liudy odniei sil's'koi likarni; narys pro dosvid roboty Sutyskivs'koi dil'nychnoi likarni Vinnyts'koi oblasti. Kyiv, Derzh. Med. vyd-vo URSR, 1955. 37 p. (MLRA 10:4)
(SITKOVETSKIY DISTRICT--HOSPITALS)

PAP, Aleksandr Germanovich, kand. med. nauk; KUCHER, N.V., red.; GITSHTEYN, A.D., tekhn. red.

[Prevention of gynecological diseases and cancer of the female generative organs] Profilaktika ginekologicheskikh zabolevanii i raka zhenskikh polovykh organov. Kiev, Gos. med. izd-vo USSR, 1960. 100 p. (MIRA 14:7)

1.Zamestitel' nachal'nika upravleniya lechprofpomoshchi Ministerstva zdravookhraneniya USSR (for Kucher)
(WOMEN—DISEASES) (GENERATIVE ORGANS, FEMALE—CANCER)

KUCHER, N.V. (Kiyev)

Prospects for the development of stomatological care in the republic. Vrach. delo no.8:95-96 Ag '60. (MIRA 13:9)

1. Ministerstvo zdravookhraneniya USSR.
(UKRAINE--STOMATOLOGY)

SUPONITSKIY, M.Ya., kand.med. nauk; KUCHER, N.V.

Morbidity with temporary loss of work capacity in industry in the Ukraine and ways for its reduction. Vrach. delo no.8: 97-101 Ag '63. (MIRA 16:9)

1. Kiyevskiy institut gigiyeny truda i professional'nykh zabolevaniy i Ministerstvo zdravookhraneniya UkrSSR.
(UKRAINE--DISABILITY EVALUATION)

SPIVAK, A.M.; KUCHER, O.M., kand. med.nauk.

Friedländer's pneumonia. Vrach. delo no.9:129-131 [illegible]63.
(MIRA 16:10)

1. Fakul'tetskaya terapevticheskaya klinika (zav. - prof. G.I.Burchinskiy) kafedra patologicheskoy anatomii (zav. zaslushennyy deyatel' nauki, prof. Ye.I.Chayka) Kiyevskogo meditsinskogo instituta.
(PNEUMONIA)

KUCHER, O. M.
Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets.

KUCHER, O. M.- "The intraorganic nervous elements of the tongue in infectious-toxic states of the organism." Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets. Kiev, 1956.
(Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 20, 1956

PARTESHKO, V.G.; KUCHER, O.M.

Effect of oxypolymers isolated from sunflower seed oil on the state of the gastrointestinal tract in animals under experimental conditions. Biul. eksp. biol. i med. 57 no.1:24-28 Ja '64. (MIRA 17:10)

1. Kafedra gigiyeny (zav. - prof. A.P. Mukhin) Leningradskogo instituta usovershenstvovaniya vrachey imeni Kirova, biokhimicheskaya laboratoriya Ukrainskogo nauchno-issledovatel'skogo instituta pitaniya i kafedra patologicheskoy anatomii (zav. - prof. Ye.I. Chayka) Kiyevskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Gorevym.

KUCHER, Petr Akimovich; DEDOV, A., red.; KODANEV, P., tekhn.red.

[Agriculture of the Komi A.S.S.R.] Sel'skoe khoziaistvo Komi ASSR, Syktyvkar, Komi kn-vo, 1957. 87 p. (MIRA 11:4)
(Komi A.S.S.R.--Agriculture)

KUCHER, P.A., otv. za vypusk; .UVESOV, G.V., otv. za vypusk

[Zaporozh'ye Branch of the All-Union Scientific Research Institute of Agricultural Electrification] Zaporozhskii filial VIESKh; kratkaia spravka. Zaporozh'e, o.Khortitsa, 1961. 15 p. (MIRA 16:11)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii sel'skogo khozyaystva.
(Zaporozh'ye--Electricity in agriculture)

KUCHER, P.A.

Basic works of the Zaporozh'ye Branch of the All-Union Scientific Research Institute for Rural Electrification. Sbor. nauch.-tekh. inform. po elektr. sel'khoz. no.16/17: 3-11 '64. (MIRA 18:11)

KUCHER, P.A.; RUBTSOV, P.A.

Effective use of milking arrangements. Sbor. nauch.-tekh. inform. po elektr. sel'khoz. no.16/17:12-19 '64.
(MIRA 18:11)

KUCHER, P.N.

Pressure of a flat die and unilateral wedge on a plastic body near the side surface. Izv.vys. ucheb.zav.; av.tekh.no.2:155-161 '58. (MIRA 11:6)

1. Khar'kovskiy aviatsionnyy institut, Kafedra tekhnologii metallov.
(Deformations (Mechanics)

SOV/147-58-3-18/18

AUTHOR: Kucher, P.N.

TITLE: The Mechanism of Plastic Deformation During Cutting by Shears and During Punching with Flat Punchers (Mekhanizm plasticheskoy deformatsii pri rezke na nozhnitsakh i vyrezke - probivke v shtampakh)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, 1958, Nr 3, pp 146-157 (USSR)

ABSTRACT: The investigations of many authors (Ref.1 - 5) were concerned mainly with the problem of the necessary force, resistance of material and the size of gaps required during cutting and punching operation. Only in the last few years the attention has been focussed on the actual physical behaviour of the material during these operations. This has been facilitated by the development of the theory based on the "method of characteristic" leading to the theory of slip lines. The present paper deals with some experimental evidence in support of the slip lines theory. Comparing the results of the experiments with the theory enables us to analyse not only the mechanism of plastic deformation but also to determine the effect of the gap between the cutters etc.

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The mechanism of Plastic Deformation During Cutting by Shears and During Punching with Flat Punchers

on the magnitude of the force required etc. Experiments were carried on specimens made of duralumin and anodized. When subjected to shear as soon as plastic deformation starts there appears on the surface of the specimen a net of shear (slip) lines. Specimens so affected were then anodized again and subjected to further shear stress until fresh slip line net appeared and the process was repeated until the rupture of the specimen. Thus a set of slip lines was obtained for various stages of plastic deformation; each slip line pattern was photographed. In the method of characteristic the material is considered as being ideal plastic. During the process of cutting of a thin sheet of metal by means of flat shears a certain portion of the material in contact with the upper shear is being bent while undergoing plastic deformation. According to Gubarev (Ref.5) the length of this portion does not depend on the type of the material and is equal to about half the thickness of the sheet. Our experiments had showed it

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does depend upon the thickness of the strip and upon the gap (Z) between the cutters as shown in Fig.1. Knowing the length on which the pressure from the cutters is acting, it is now possible to draw the characteristic net of slip lines. Fig.2 shows such a diagram for the case where the upper and the lower cutter exert pressure on equal lengths of the strip. It has been also assumed that this pressure is uniform throughout. These characteristics are drawn until the characteristic of one family AEM touches the corresponding characteristic of the second family A'E'M' (see Fig.3) so that the characteristic AEE'A' becomes the limiting characteristic, i.e. the characteristic along which the actual shear of the material proceeds. The theoretical pattern is drawn assuming that the two families of characteristics of the slip-line field are independent one from the other. In fact they do depend on each other, hence the actual pattern of the slip-line field will differ slightly from the theoretical as shown in Fig.4. When the gap Z = 0, the limiting

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characteristic is practically a straight line; only between EE' it has a double curvature, so that there is a point of inflexion between E and E'. The two families of characteristics being identical the tangent to the limiting characteristic is the same and inclined at an angle $\alpha_{\pi p}$ to the limiting characteristic of each family. This angle is called the limiting angle of turning. Knowing this angle the pressure at the contact between the tool and the material is given by Eq.1 as shown by Tomlenov in Ref.7. The angle of turning of the limiting characteristic increases with the gap Z between the cutters as shown in Fig.5. When Z = 58% there is no limiting characteristic, hence no shearing either. Experiments confirm this fact. Fig.6 shows the slip-line field for the case of Z = 13% at the instant of plastic deformation being produced over the full thickness of the material. In this case $\alpha_{\pi p} = 12^{\circ}$. Fig.7 and 8 show corresponding fields obtained experimentally and they show clearly the similarity of the patterns. Fig.9 and 10

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show the photographs of slip-line fields obtained on the specimen but with shears having a gap Z = 4% at two different stages of the deformation. From the analysis of the slip-line field patterns (similar to that in Fig.6) it has been found that the tangent at the point of inflection to the limiting characteristic approaches the vertical line through that point as the gap between the shearing knives approaches the value of Z = 18%. Hence this value of Z seems to indicate the optimal conditions for pure shearing. Further increase of the gap reverses the process. The process of punching may be related to the plane shearing process.

Case 1: The width (diameter) of the punch larger than the thickness of the plate ($2a > \sqrt{2}b$). In this case at the edges of the punch regions of plastic deformation are produced, the die and the punch do not influence each other and the problem does not differ from that of shearing by flat cutters as discussed above (Fig.11).

Card 5/7 Case 2: The width of the die is less than the thickness

The Mechanism of Plastic Deformation During Cutting by Shears and During Punching with Flat Punchers

of the plate ($2a < \sqrt{2}b$). In this case there is an interdependence between the die and the punch and at both sides of the plate the initial yield lines are not vertical but diagonal, as shown in Fig.12, and experiments verify this clearly (Fig.13, 14 and 15, representing 3 different stages but the same specimen, with the gap between the edge of the punch and the edge of the die 1/2 Z = 25%). Experimental results are summarized in two tables. In the first table cutting by shears is considered and in the second punching of circular holes is presented for various values of the gap Z.
The relevant data were as follows:
Cutting: high tensile aluminium alloy σ_s = 50 kg/mm^2, shear area = 44 mm^2.
Punching: punch diameter 50 mm; plate thickness 6.3 mm (steel of σ_b = 35-45 kg/mm^2, σ_s = 20 kg/mm^2).
The tightening effect between the material and the cutters was neglected. In both tables the first column gives the

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size of the gap, the second gives the experimental force required (in kg or tons) and the third - the corresponding theoretical force (in kg or tons). There are 15 figures and 8 Soviet references.

ASSOCIATION: Khar'kovskiy Aviatsionnyy Institut, Kafedra Tekhnologii Metallov (Khar'kov Institute of Aeronautics, Chair of Metal Technology)

SUBMITTED: 3rd February 1958.

Card 7/7

USCOMM-DC-60,968

PARTESHKO, V.G.; KUCHER, O.M.

Effect of a polymer fraction isolated from sunflower seed oil on the animal body under experimental conditions. Vop. pit. 23 no.2: 44-48 Mr-Ap '64. (MIRA 17:10)

1. Kafedra gigiyeny (zav. - prof. A.P. Mukhin) Leningradskogo instituta dlya usovershenstvovaniya vrachey, kafedra patologicheskoy anatomii (zav. - prof. Ye. I. Chayka) Kiyevskogo meditsinskogo instituta i biokhimicheskaya laboratoriya (zav. - kand. med. nauk V.G. Parteshko) Ukrainskogo nauchno-issledovatel'skogo instituta pitaniya.

KUCHER, P.N., Cand Tech Sci — (diss) "Study of certain technological processes in aircraft building by the characteristics method." [Kazan'], 1959, 16 pp (Min of Higher Education USSR. Kazan' Aviation Inst) (KL, 36-59, 115)

ABRAMOVICH, Il'ya Aleksandrovich. Prinimal uchastiye IVANOV, G.I., inzh.; KUCHER, P.Ye., inzh., retsenzent; PLEMYANNIKOV, M.N., red.; VINOGRADOVA, G.A., tekhn. red.

[Purification of sewage waters of leather factories] Ochistka stochnykh vod kozhevennykh zavodov. Moskva, Gizlegprom, 1963. 236 p. (MIRA 16:9)
(Leather industry) (Industrial wastes--Purification)

2

CA

Molecular weight and colloidal (micellar) solubility in aqueous solutions of dibutyl-α-naphthaleneacetic acid. A. I. Yurzhenko and R. V. Kuzhir (Univ. Lvov). *Kolloid. Zhur.* 13, 228–32 (1951).—The turbidity τ of solns. of Na dibutyl-α-naphthaleneacetate (I) was negligible until the concn. c (wt. %) reached 0.01%; at this concn. micelle formation started. On further increase of c, τ increased to c = 2.2% and then decreased, presumably because the scattered light was absorbed by the soln. Between c = 0.8% and 2.2%, c/τ was a linear function of c and was greater in 0.01 *N* H_3BO_3 than in H_2O (pH 6.6) > 0.01 *N* Na_2SO_4 > 0.01 *N* NaOH. The micellar wt. (which is proportional to c/τ at c = 0) was 10360, 20400, 27800, and 22200 in these 4 solvents, resp. The coeff. of diffusion was greater at c 1.45% than at 0.08%. *Solubilization* of Sudan III in I solns. was small at pH 1.8, a little larger at pH 6.6, larger still in 0.01 *N* Na_2SO_4, and largest in 0.01 *N* NaOH; i.e., solv. increased with micellar wt. In all solvents, the amt. of Sudan dissolved by 1 g. I was independent of c between 0.7% and 3%; at pH 12 it was 0.0004 g. One g. Na oleate in 0.1 *N* Na_2CO_3 dissolved 0.0006 g. Sudan, all at 22°. Polymerization of styrene or isoprene also is more rapid in alk. than in neutral or acid solns. of I. The micellar wt. is important for *emulsion polymerization*. J. J. Bikerman

1951

YURZHENKO, A.I., professor; KUCHER, R.V., assistent.

Study of the speed of diffusion of colloidal electrolytes in aqueous solutions. Dop.ta pov.L'viv.un. no.3 pt.2:35-36 '52.
(MLRA 9:11)

(Electrolytes) (Diffusion)

CA

The micellar weight of alkylbenzenesulfonic acid derivatives in aqueous solutions. A. I. Yurzhenko and R. V. Kucher (Univ. Lvov). *Kolloid. Zhur.* 14, 219-20(1952); cf. *C.A.* 45, 8234b.—Light scattering τ was detd. for wave length 4360 A. (light filter). On dilu., τ becomes immeasurably small when the concn. sinks below the crit. concn. C of micelle formation. C was 0.000017 M, 0.00016 M, and 0.00039 M for Na eicosylbenzenesulfonate (I), Na dibutylbenzenesulfonate (II), and Na dibutylnaphthalenesulfonate (III), resp. The high C of III presumably is due to the difficulty of packing naphthalene rings. At higher concns., $1/\tau$ is a linear function of concn., and extrapolation of $1/\tau$ to zero concn. gives the micellar wt. m. This was 31000 for III, 69000 for II, and 138000 for I, again showing the steric hindrance for agglomeration of naphthalene rings. After addn. of 0.01 g.-equiv. NaOH (to pH 11.8-11.9), m increased to 33300, 91000, and 161000, resp., and at pH 1.8 (in 0.01 N H_2SO_4) m was 19300, 61300, and 109000, resp. Presumably, NaOH reduces the true soly. of I, II, and III because of its common ion, whereas acids lower m because micelles of the free acid form. 0.1 N Na_2SO_4 increased m to 27700 and 77000 for III and II, resp. Among the 1% solns. of III in H_2O-EtOH mixts. those in 40% EtOH had the greatest τ (about 50 times that in H_2O), whereas for 1% solns. of II the max. occurred in 60% EtOH. This is caused by the dehydrating effect of EtOH. Surface tension γ of H_2O is lowered by I more than by III, which is more active than II at equal mol. concns.; γ is 36-40 ergs/sq. cm. in 0.004 M solns. The persistence of single films of II foam was greater in alk. than in neutral solns. J. J. Bikerman

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

(2) Chem.

The solubilization of Sudan III in aqueous solutions of alkylbenzenesulfonic acid derivatives. A. I. Yurzhenko and R. V. Kuchar. *Colloid J. (U.S.S.R.)* 14, 311-16 (1952)(Engl. translation). See C.A. 46, 10181a.

H. L. H.
11-7-54

GRITSAN, D.N.; KUCHER, R.V.; YURZHENKO, R.M.

Dispersed electrolytic depositions of bismuth. Nauk.zap.L'viv.un. 21:63-69 '52. (MIRA 10:7)

1. Kafedra fizicheskoy i kolloidnoy khimii.
(Bismuth) (Electroplating)

USSR/Chemistry - Emulsifiers Aug 52

"The Weights of Micelles and Some Colloidal Properties of Sulfonated Emulsifiers," A. I. Yurzhenko and R. V. Kucher, Lvov State U imeni I. Franko

"DAN SSSR" Vol 85, No 6, P. 1337-1340

The size and forms of the micelles of a no of sulfonated emulsifiers were studied with respect to conjugated solubility of oleophilic substances, surface activity, mech properties of adsorption layers, and their behavior in emulsion polymerization of hydrocarbons. The size

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and form of the Na salt of dibutylnaphthalenesulfonic acid, Na salt of dibutylbenzenesulfonic acid, and Na salt of eicosylbenzenesulfonic acid were detd. The colloidal solubility of a typical oleophillic dye (Sudan III) in an aqueous soln of a sulfonated emulsifier was studied spectrophotometrically. By comparing weights of micelles with the molar conjugated solubility of emulsifiers, it is seen that, as the former increases, the capacity of the soap to dissolve oleophillic substances increases. Submitted 23 Jun 52

238T19

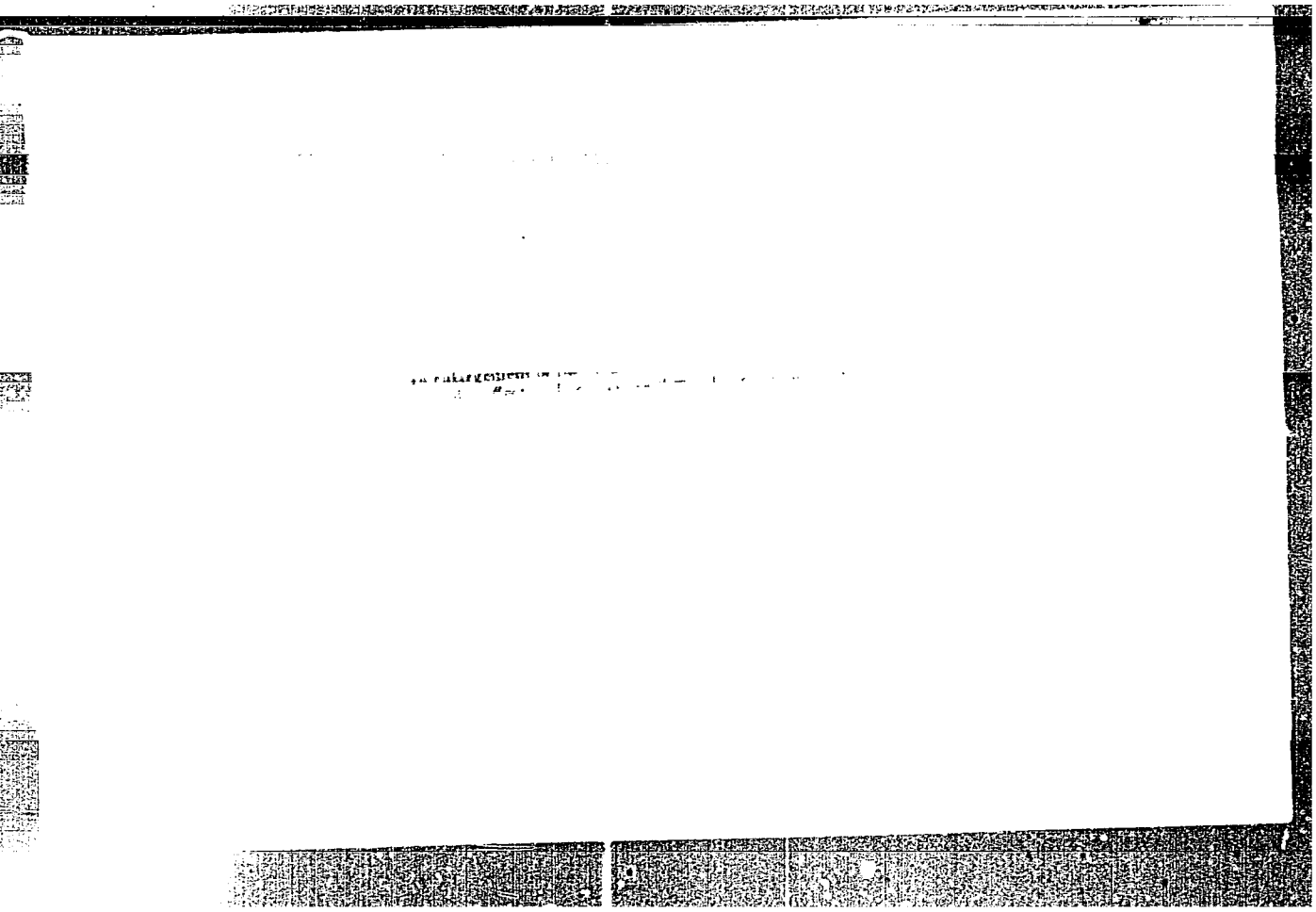
KUCHER, R. V.

Study of the dimensions and shape of sulfosoap micelles by the method of diffusion. R. V. Kucher and A. I. Yurzhenko (I. Franko Univ., Lvov). *Kolloid. Zhur.* 15, 112-7 (1953); cf. *C.A.* 46, 8100f, 9381a.—The coeff. *D* of diffusion was detd. refractometrically. In H_2O *D* of Na dibutylnaphthalenesulfonate (I) and Na dibutylbenzenesulfonate (II) was approx. 3×10^{-6} cm.²/sec. in 1% and 1.3 $\times 10^{-6}$ in 0% soln. In 0.1 *N* Na_2SO_4, *D* depended little on concn. and was near 1.1×10^{-6} and 0.8×10^{-6}, resp. Both I and II had spherical micelles. Na chrysophenine sulfonate had $D = 0.30 \times 10^{-6}$, and its length was 70 times its width. The micelles of I in 0.1 *N* Na_2SO_4 had radii of 21-17 A. in 0.5-2% solns. Dissoln. of Sudan III (0.8 3.3×10^{-6} g./ml.) increased r to 21-18 A. J. J. B.

KUCHER, R.V.; KAZ'MIN, S.D.

Colloidal and chemical characteristics of aqueous solutions of sodium tetralinsulfonate. Dop. ta pov. L'viv.un. no.6 pt.2:140-141 '55. (MLRA 10:3)

(Sulfonic acids) (Colloids)



KUCHER, R.V.; KOVBUZ, M.A.

Investigation of the colloidal properties of some sulfosoaps in aqueous solutions [with English summary in insert]. Koll.zhur. 18 no.2:193-198 Mr-Ap '56. (MLRA 9:8)

1. L'vovskiy gosudarstvennyy universitet imeni Ivana Franko, Kafedra fizicheskoy i kolloidnoy khimii.
(Soaps) (Micellar theory)

KUCHER, R. V.

Category: USSR/Chemistry of High-Molecular Substances F.

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30899

Author : Kucher R. V., Yurzhenko A. I.
Inst : not given
Title : Rate of Decomposition of Isopropyl-Benzene Hydroperoxide in Aqueous Solutions of Emulsifying Agents

Orig Pub: Kolloid. zh., 1956, 18, No 5, 555-561

Abstract: Thermal decomposition of isopropyl-benzene hydroperoxide (I) in aqueous solutions, at 98.5°, conforms to the 1-st order. Rate of decomposition of I increases in the presence of acids and bases, and also on addition of emulsifiers (K-stearate and laurate, Na-oleate). Addition of Nekal accelerates decomposition in acid medium, and retards it in alkaline: on increase of nekal concentration in aqueous solutions from 0 to 3% decomposition velocity constant of I ($K \cdot 10^3$ min^{-1}) increases from 11.4 to 31.4 at pH 0.9, from 0.183 to 0.336 at pH 5.8, and decreases from 1.57 to 0.974 at pH 9.9. Change in order of re-

Card : 1/2 -11-

Lvov State Univ im I. Franko

KUCHER, R.V.;POLONS'KIY, T.M.;KOVBUZ, M.O.

Bentonite clays as catalytic agents of emulsion oxidation of cumene. [with summary in English]. Dop. AN URSR no.1:42-45 '57. (MLRA 10:4)

1. L'vivs'kiy dershavniy universitet. Predstaviv akademik AN URSR A. V. Dumans'kiy.
(Bentonite) (Cumene)

KUCHER, R.V.

Effect of the nature of solvent on the solubility of colloids in nekal solutions. Dop. ta pov. L'viv. un. no.7 pt.3: 197-200 '57. (MIRA 11:2)

(Solution (Chemistry))
(Nekals)

YERAL'YEV, V.D.; KUCHER, R.V.; YURZHENKO, A.I.

Effect of interphase distribution of hydroperoxides on the rate of certain reactions in emulsions. Dop. ta pov. L'viv un. no.7 pt.3:201-204. 57. (MIRA 11:2)
(Hydroxides) (Chemical reaction, Rate of)
(Emulsions)

USSR/Physical Chemistry - Colloid Chemistry, Dispersion Systems. B-14

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 4044.

Author : R.V. Kucher. A.A. Yavorovskiy, M.A. Kovbuz.
Inst :
Title : Study of Colloid Properties of Sodium Salts of Sulfosuccinic Acid Esters.

Orig Pub: Kolloidn. zh., 1957, 19, No 4, 454-458.

Abstract: The surface tension isotherms of aqueous solutions of sodium salts of dimethyl, diethyl, dibutyl and diisoamyl esters of sulfosuccinic acid were studied. The micelle formation in the three lower salts is displayed in aqueous solutions at an insignificant degree, which is confirmed with the values of the critical concentration of micelle formation and of the micelle-molar weight determined by the light diffusion method. Diisoamyl ester possesses clearly expressed colloid properties. The conjugate solubility of sudan III starts to increase noticeably in the series of aqueous solutions of lower succinic acid esters beginning from dibutyl ester and it is especially great in the case of diisoamyl ester.

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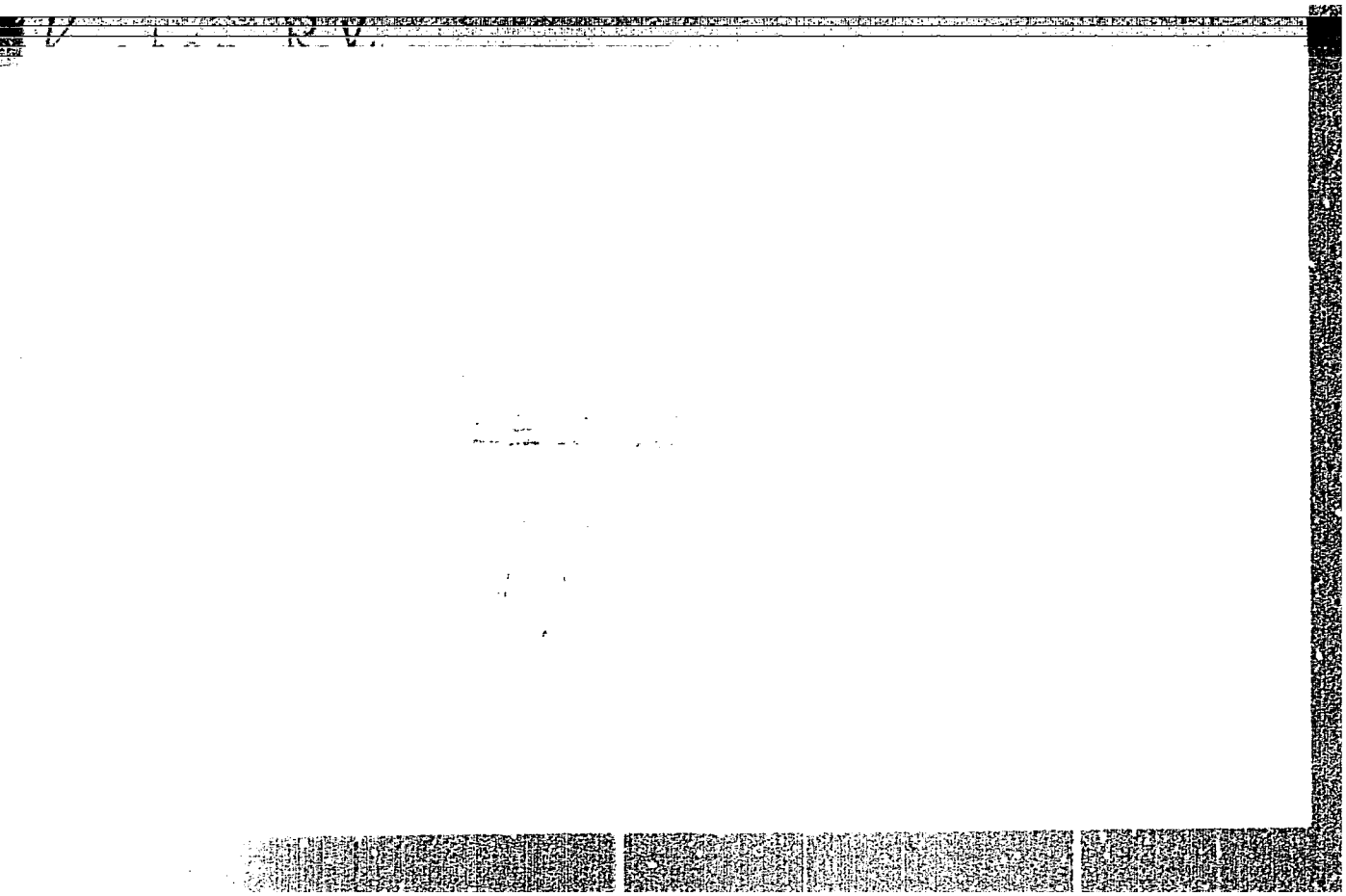
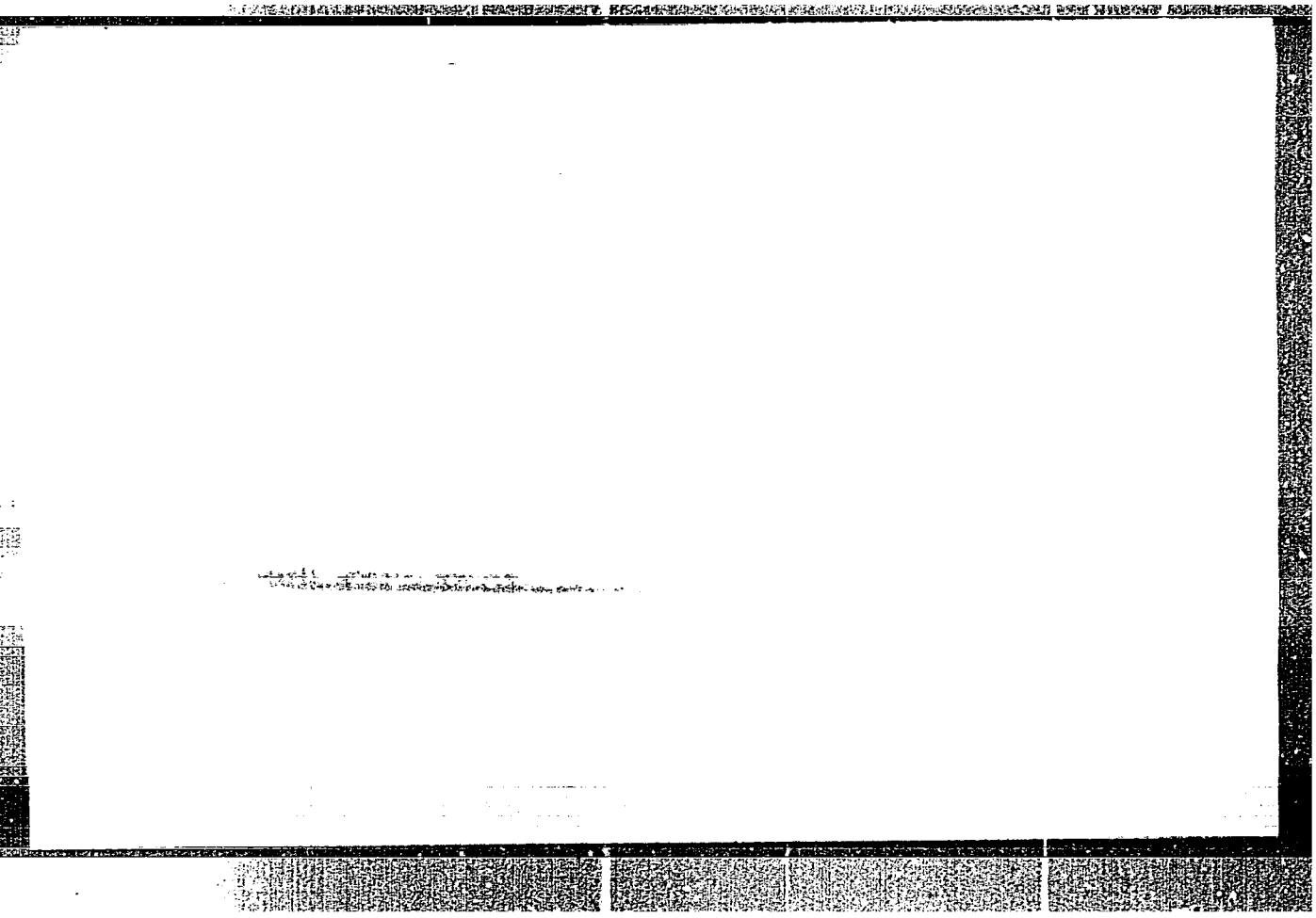
USSR/Physical Chemistry - Colloid Chemistry, Dispersion Systems. B-14

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 4044.

Card : 2/2 -6-



APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000827030005-6"



KUCHER, R.V.

20-4-26/52

AUTHORS: Kucher, R. V., Yurzhenko, A. I., Kovbuz, M. A.

TITLE: The Oxidation of Cumene by Molecular Oxygen in Emulsions in the Presence of Various Emulsifiers (Okisleniye kumola molekulyarnym kislorodom v emul'siyakh v prisutstvii razlichnykh emul'gatorov).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 4, pp. 638-640 (USSR)

ABSTRACT: The present report studies the velocity of the oxidation referred to in the title in connection with the ratio of the phases and with the nature of the used emulsifiers. The purified hydrocarbon was oxidized in glass retorts by bubbling pure oxygen in a thermostat at 80°C. Specimens for the analysis with respect to the content of hydroperoxide were taken in certain intervals from the reaction mixture. The cumene-phase was further analyzed with respect to the total output of carbonyl compounds. A diagram illustrates the kinetic curves of the output of hydroperoxide of cumene at different ratios of the phases with lacking emulsifier. It results from these data that an increase of the volume of the acqueous phase considerably increases the velocity of accumulation of the hydroperoxide of cumene. These data can also be checked in other systems and show among other things the following:

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